

Supplemental Experimental Procedures

Transformation constructs

For RNAi vector construct design, A 383 bp unique cDNA sequence of *OsSerk2Ri* (amplified by primer pair *OsSerk2Ri-1/-2*: (5'-CACCATGATCCGCCGCTTGAAT-3'/5'- CCAATCGAGCAACATCACAT-3')) and a 432bp unique cDNA sequence of *OsSerk1* (amplified by primer pair *OsSerk1Ri-1/-2*: (5'-CACCATCCGTGCACTTGGTTTCAT-3'/5'-AAGGGTTGTTGGCAAACTG-3')) were cloned into pENTR™/D-TOPO® (Invitrogen) vector and then inserted into pANDA (Kindly provided by Professor Ko Shimamoto, Nara Institute of Science and Technology, Japan) through LR recombination to create *OsSerk2Ri* and *OsSerk1Ri* constructs.

For the yeast two-hybrid assay vector construct design, the coding cDNA sequences with the stop codon of OsSERK2 variants, OsSERK2JMK and OsSERK2JK containing juxtamembrane and kinase domains (JMK), OsSERK2TJM containing partial sequence of the transmembrane, juxtamembrane and kinase domains (TJK), XA21JK, XA3JMK, OsFLS2JMK, and OsBRI1JMK were amplified by the primer pair *OsSerk2A260c-F/Xak1c-R(w/stop)*: 5'-CACCATGGCAATTGGATTTGCATGGTG-3'/5'-TTACCTCGGGCCGGACAGCTCCATTGC-3', *OsSerk2-799F/OsSerk2c-R(w/stop)*: 5'-CACCCGGCGGCGTAAACCTGAAG-3'/5'-TTACCTCGGGCCGGACAGCTCCATTGC-3', *OsSerk2-721F/OsSerk2c-R(w/stop)*: 5'-CACCCGGCGGCGTAAACCTG

AAG-3'/5'-TTACCTCGG GCCGGACAGCTCCATTGC-3',
Xa21-2029F/Xa21-3058R: 5'-CACCCACAAGAGAACTAAAAAGGGAG-3'/5'-
 TCAGAATTCAAGGCTCCCACC-3', *Xa3JMK-F/Xa3JMK-R(w/stop)*:
 5'-CACCATGTATGTAGTGATTAGAAAGAAA-3'/5'-ATCACTGCTGCACAAC
 GCTCACTGT-3'), *OsFLS2JMK-F/OsFLS2JMK R(w/stop)*:
 5'-CACCATGGAGAGGAATAAATTTGCAAGCA-3'/5'-
 TCAGTCTTCTCCGACGAGCTT-3' and *OsBri1JMK-F/OsBri1JMK-R(w/stop)*: 5'-
 CACCATGATAGCCATTGGGAGCAAGCG-3'/5'-CTAATCCTTCTCCTCCTTGG
 CTTCCC-3') respectively and were cloned into pENDRTM/D-TOPO® (Invitrogen)
 to create pENTR-OsSERK2JMK, pENTR-OsSERK2JK, pENTR-OsSERK2TJK,
 pENTR-XA21JK, pENTR-XA3JMK, pENTR-OsFLS2JMK, and
 pENTR-OsBRI1JMK. The catalytically inactive variants,
 pENTR-OsSERK2JMK^{K334E}, pENTR-OsSERK2JK^{D433N} and
 pENTR-OsSERK2TJK^{D433N} were created by site-directed mutagenesis using
 pENTR-OsSERK2JMK, pENTR-OsSERK2JK, and pENTR-OsSERK2TJK plasmids,
 as DNA template and *K334E-1/-2*:
 5'-GGCTCGTTGGTAGCAGTGGAAAGATTAAAAGAAGAAGAAC-3'
 /5'-GTTCTTCTTTTAATCTTTCCACTGCTACCAACGAGCC-3' or *D433N-1/-2*:
 5'-CCAAGATCATTCATCGTAATGTCAAAGCTGCAAATATTC-3'/5'-
 GAATATTTGCAGCTTTGACATTACGATGAATGATCTTGG-3' as primer pairs.
 pENTR-OsSERK2JMK, pENTR-OsSERK2JK, pENTR-OsSERK2TJK,
 pENTR-OsSERK2JMK^{KE}, pENTR-OsSERK2JK^{DN}, pENTR-OsSERK2TJK^{DN},

pENTR-OsFLS2JMK and the previously constructed vectors pENTR-XA21K668 and pENTR-XA21K668^{KE} [1] were recombined with pB42ADgc [1] to yield the HA fusion protein AD vectors, HA-OsSERK2JMK, HA-OsSERK2JK, HA-OsSERK2TJK, HA-OsSERK2JMK^{KE}, HA-OsSERK2JK^{DN}, HA-OsSERK2TJK^{DN}, HA-OsFLS2JMK, HA-XA21K668 and HA-XA21K668^{KE}. BD vectors, LexA-XA21K668 and its catalytically inactive variant LexA-XA21K668^{K736E} were created as described previously [1]. LexA-XA21K668^{D841N} was created by site-directed mutagenesis using LexA-XA21K668 plasmid as template and *D841N-1/-2*: 5'-CCCTGAACCTGTTGTACACTGTAATATTAAATCAAGCAATG-3'/5'-CATTGCTTGATTTAATATTACAGTGTACAACAGGTTTCAGGG-3' as the primer pair. pENTR-XA21JK, pENTR-OsSERK2JMK and pENTR-OsFLS2JMK were then recombined with pLexAgtw [1] to get LexA-XA21JK, LexA-OsSERK2JMK and LexA-OsFLS2JMK. LexA-OsFLS2-JMK was created by site-directed mutagenesis using the LexA-OsFLS2-JMK^{D-N} plasmid as template and OsFLS2D-N-1/-2 5'-CCCCGTCGTGCACTGCAACGTCAAGCCGTCCAACGTC-3'/5'-GACGTTGGACGGCTTGACGTTGCAGTGCACGACGGGG-3' primers. LexA-XA21JK^{D841N} was created by site-directed mutagenesis using the LexA-XA21JK plasmid as template and *D841N-1/-2*: 5'-CCCTGAACCTGTTGTACACTGTAATATTAAATCAAGCAATG-3'/5'-CATTGCTTGATTTAATATTACAGTGTACAACAGGTTTCAGGG-3' primers. For GST- or His-Nus- fusion protein constructions, pENTR-OsSERK21JMK, pENTR-OsSERK2JMK^{K334E}, pENTR-OsSERK2JK and pENTR-OsSERK2JK^{D433N}

were recombined with the gateway compatible vectors pDEST15 (for GST fusion protein) to create the constructs, GST-OsSERK2JMK^{KE}, GST-OsSERK2JMK^{DN}, GST-OsSERK2JK and GST-OsSERK2JK^{DN}. The coding cDNA sequence with stop codon of *OsSerkl* encoding OsSERK1JMK, which contains the juxtamembrane and kinase domains (JMK) (amplified by the primer pair *OsSerklG257c-F/OsSerklG257c-R(w/stop)*):

5'-CACCATGGGTTTTGCATGGTATCGGCGC-3'/5'-TTATCATCTCGGCCCTGATAGCTCAACCG-3') was cloned into pENDRTM/D-TOPO® (Invitrogen) to create pENTR-OsSERK1JMK. pENTR-OsSERK1JMK was recombined with pDEST15 resulting in the construct for GST-OsSERK1JMK. pENTR-XA21K668^{D841N} was created by site-directed mutagenesis using pENTR-XA21K668 plasmid as template and *D841N-1/-2*: 5'-CCCTGAACCTGTTGTACACTGTAATATTAAATCAAGCAATG-3'/5'-

CATTGCTTGATTTAATATTACAGTGTACAACAGGTTTCAGGG-3' primers.

pENTR-XA21K668, pENTR-XA21K668^{K736E} [1], pENTR-XA21K668^{D841N}, pENTR-XA21JK and pENTR-XA21JK^{D841N} were recombined with the gateway compatible vector pET-57-DEST (for 6XHis-Nus- fusion protein) (Novagen) to create the constructs, His-Nus-XA21K668, His-Nus-XA21K668^{KE}, His-Nus-XA21K668^{DN}, His-Nus-XA21JK and His-Nus-XA21JK^{DN}, respectively.

Reference

1. Chen X, Chern M, Canlas PE, Ruan D, Jiang C, et al. (2010) An ATPase promotes autophosphorylation of the pattern recognition receptor XA21 and inhibits

XA21-mediated immunity. Proc Natl Acad Sci U S A 107: 8029-8034.